

facilitated when the former is being docked to the latter. These means in particular allow cabin module 14 to be guided lengthways by a corner effect, during docking, to its final position on aeroplane 16, and then allow this module 14 to be held in this position.

As is shown by FIG. 12, aeroplane 16 includes fairing elements 90 intended to provide aerodynamic continuity between the portion of the fuselage which streamlines nose cone 42 and upper wall 66 of cabin module 14. These elements 90 are installed on hinged arms 91 (FIG. 13) allowing these elements to be moved between an open position, represented in FIG. 12, in which these elements are radially separated towards the outside and towards the front of the aeroplane, in order to enable cabin module 14 to be conveyed to its final position of docking to the aeroplane, and a closed position, illustrated in FIG. 14, in which these elements are radially brought back towards the inside and towards the rear, such that they cover a space between nose cone 42 and cabin module 14. In this closed position, elements 90 provide the aerodynamic continuity of the fuselage of aeroplane 16. FIG. 13 illustrates an intermediate position of fairing elements 90.

FIGS. 12 to 14 also illustrate second docking devices of removable cabin module 14 to aeroplane 16, fitted to the lengthways ends of module 14 and to the corresponding ends of nose cone 42 and tail cone 44 of aeroplane 16.

These second docking devices include lengthways rods 92 (FIG. 14) intended to assist radial retention of cabin module 14 on aeroplane 16. These rods 92 are installed sliding in lengthways bores 94 (FIG. 13) made in transverse wall 74 delimiting nose cone 42, and can be slid lengthways between a retracted position, in which rods 92 are fully housed in bores 94 (FIG. 13), and a deployed position, in which rods 92 project outside bores 94 (FIG. 14) and penetrate in corresponding bores (not visible in the figures) made in corresponding end transverse wall 68 of cabin module 14.

First and second docking devices 80, 92 form means for holding cabin module 14 in reception space 40.

The foregoing description of elements 70, 72, 90, 92 with reference to FIGS. 12 to 14 can be transposed to tail cone 44 of aeroplane 16, and to the corresponding lengthways end of cabin module 14.

It can be seen from the above description that air terminal 10 and aeroplane 16 allow implementation of a method for transferring a payload such as passengers and/or luggage and/or freight, between air terminal 10, and therefore more generally an aerodrome or airport including this air terminal, and the cabin of aeroplane 16 housed in removable cabin module 14. This method is remarkable in that removable cabin module 14 is separated from aeroplane 16 and is docked to docking module 12 during the transfer.

FIGS. 1 to 14 illustrate the main successive steps of a method for boarding passengers on board aeroplane 16 according to a preferred embodiment of the invention.

This method includes the transfer of the passengers from room 24 of air terminal 10 into the cabin integrated in cabin module 14 docked to docking module 12 (FIGS. 1 and 2) via door 26a of docking module 12 and door 69b of cabin module 14 facing above-mentioned door 26a.

On completion of this transfer doors 69b and 26a are closed, and beams 36 are then retracted (FIG. 3).

Cabin module 14 is then moved downwards by means of lifting device 54, passing through opening 32 of floor 34 of room 24 (FIG. 4), and then put in position in aeroplane 16 (FIGS. 5 and 6) after engaging locking tabs 72 in corresponding grooves 70.

Lifting device 54 is then uncoupled from cabin module 14 (FIGS. 7 and 8), and devices 80 and 92 for docking cabin module 14 to aeroplane 16 are activated (FIGS. 9 to 14).

Aeroplane 16 is then ready to move to a takeoff runway.

The same steps can be performed in reverse order to implement a method for deplaning the passengers from aeroplane 16.

The foregoing description can naturally be transposed to the loading and unloading of luggage or freight.

Aeroplane 16 described above also has the advantage that it is easy to replace removable cabin module 14 by another removable cabin module, which can be distinguished from the first, for example, by the internal layout of its cabin, or even by the type of payload which can be housed in it.

Aeroplane 16 is thus suitable for implementing a method for modifying the internal configuration of its passenger or freight cabin, including at least the following steps:

deactivation of docking means 80, 92 holding a first removable cabin module 14 in a reception space 40 in the aircraft 16; removal of this first cabin module 14 outside this reception space 40;

installation, in reception space 40, of a second removable cabin module 14 having an internal configuration different to that of the first removable cabin module;

activation of docking devices 80, 92 to hold the second module in the reception space.

It is thus easy for an airline to replace a module having an economy class cabin by a module having a first class or business class cabin, or vice versa.

It is also easy to replace a module suitable for passenger transport by a module suitable for freight transport.

The method can also be implemented in the course of manufacture of aeroplane 16, in order to install a cabin module in the aeroplane which is specially equipped for testing, and subsequently, after testing, to replace this cabin module by a module suitable for commercial exploitation of the aeroplane in preparation for its final delivery.

What is claimed is:

1. An aircraft comprising:

a removable cabin module, comprising a floor, an upper aircraft fuselage portion connected to the floor, and a first and a second end wall, wherein the first and second end walls, the floor and the upper aircraft fuselage portion form a cabin for transport of passengers, luggage, freight or combinations thereof;

a reception space for receiving the removable cabin module;

a nose cone comprising a cockpit and a transverse wall;

a tail cone comprising a tail unit and a transverse wall;

a lower structure comprising a lower fuselage portion truncated in a horizontal plane, wherein the reception space is delimited between the transverse wall of the nose cone and the transverse wall of the tail cone, and above the horizontal plane of the lower structure;

a centring device for centring the removable cabin module in the reception space; and

a retaining device for retaining the removable cabin module in the reception space, wherein the retaining device comprises a first docking device for securely coupling the floor of the removable cabin module to the horizontal plane of the lower structure, wherein the first docking device comprises a first element forming a hook which is coupled securely to the floor of the removable cabin module, and a second element forming a hook coupled securely to the horizontal plane of the lower structure, wherein the retaining device comprises a second docking device for securely coupling the first or second end